Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the matter of	)	
	)	
Amendment of the Commission's	)	GEN Docket No. 90-314
Rules to Establish New Personal	)	
Communications Services	)	

REPLY COMMENTS OF UTAM, INC.

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September 27, 1994

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EXECUTIVE SUMMARY

UTAM submits that the few comments filed in response to its Plan for financing and managing the relocation of microwave systems from the unlicensed PCS spectrum[1] identify no issues that could justify any delay in approval of the Plan. Indeed, the comments largely discuss concerns that already have been fully addressed in either the Plan or the FCC's orders in this and the Emerging Technologies dockets. Accordingly, UTAM's Plan should promptly be approved.

The questions raised about UTAM's cost and revenue estimates are unwarranted. UTAM has adequately supported its estimate of the average cost for relocating an analog microwave link, and that estimate is conservative insofar as it exceeds the Commission's estimate. UTAM's assumptions regarding the percentages of co-channel and adjacent channel microwave links that it will be required to relocate also are reasonable in view of the facts that: (1) every link in the unlicensed spectrum also utilizes a frequency in the licensed spectrum and (2) PCS licensees will have primary responsibility for clearing the adjacent channel links. Further, if adopted by the Commission, cost sharing as proposed by PCIA will not increase, and may decrease, UTAM's share of relocation costs. UTAM has likewise demonstrated a reasonable expectation of adequate funding to complete the band clearing process.

UTAM's proposed measures for implementing coordination and disablement requirements are equally reliable. Interference assessments will be made on a

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[1] UTAM Plan for Financing and Managing 2 GHz Microwave Relocation, GEN Docket 90-314 (filed Aug. 1, 1994) (hereinafter "UTAM Plan").

conservative basis and comply with industry-developed standards and applicable NSMA PCN procedures. UTAM will collect all information necessary to monitor compliance, report intentional violations to the FCC, and assist in attempting to resolve cases of suspected interference consistent with accepted frequency coordination procedures. The proposed mechanisms and procedures for post-installation equipment activation and disablement -- which will be individually designed by manufacturers, but must be passed upon by both UTAM and the FCC -- will provide the necessary degree of assurance that coordinated systems cannot be activated or relocated in violation of the rules.

Finally, the Plan sets out a workable strategy for expediting the deployment of nomadic PCS devices, particularly data-PCS products, given existing constraints on funding and the timeframes for negotiation of public safety microwave relocations. The combination of segment self-financing with market priorities and the initial clearing of links operating at 1915 MHz through 1925 MHz of the unlicensed spectrum will maximize the revenues available for clearing and potentially free up some spectrum at 1920 MHz for early nomadic deployment in the asynchronous and isochronous bands, subject to FCC approval. Concerns raised by Apple regarding UTAM's relocation strategy and its governance processes are misplaced, and Apple is encouraged to join UTAM and to contribute funds directed to the clearing of the asynchronous spectrum. For all these reasons, the FCC should expeditiously approve UTAM's Plan.

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REPLY COMMENTS OF UTAM, INC.

UTAM, Inc. hereby replies to comments filed in response to its "Plan for Financing and Managing 2 GHz Microwave Relocation," filed August 1, 1994.[1] UTAM's Plan for clearing the unlicensed PCS spectrum of incumbent microwave systems reflects the endorsement of the UTAM membership, which is representative of all aspects of the unlicensed PCS industry. UTAM believes that the Plan satisfies the requirements of the Commission's Second Report and Order and Memorandum Opinion and Order in this docket[2] and constitutes a responsible and practical approach to resolving the unique problems associated with the deployment of unlicensed PCS.

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[1] The following parties filed comments on the UTAM Plan: American Association of Railroads (AAR); American Petroleum Institute (API); Apple Computer Company (Apple); AT&T; North American Telecommunications Association (NATA); South Florida Water Management District (SFWMD); SpectraLink Corporation; and Utilities Telecommunications Council (UTC).

[2] Amendment of the Commission's Rules To Establish New Personal Communications Services, 8 FCC Rcd 7700 (1993) (hereinafter "Second Report and Order"), recon., FCC 94-141 (June 13, 1994) (hereinafter "Memorandum Opinion and Order").

Only a few comments were filed on the Plan. In those filings, several parties specifically reaffirm their support for UTAM and the Plan.[3] For the most part, the other commenters merely request clarification of issues already addressed in the Plan or in the FCC's Orders.[4]

The limited number of concerns raised fall generally into three categories: (1) the reliability of UTAM's estimates of the costs of and the funding available for the relocation process; (2) the implementation details of the coordination and disablement requirements for early PCS deployment; and (3) the facilitation of nomadic, particularly data-PCS, deployment. These issues are definitively addressed below.[5] Accordingly,

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[3] Comments of AT&T; Comments of NATA.

[4] Only SpectraLink broadly questions UTAM's approach to its financing and management responsibilities. As an associate member of UTAM, SpectraLink has made many valuable contributions to the development of the Plan, but its request for additional details lacks the specificity necessary for a detailed response. UTAM strongly believes that the level of detail in the Plan is more than sufficient for the FCC to issue an informed decision on its merits.

[5] On September 16, 1994, Hewlett-Packard Company (HP) requested leave to file comments on the UTAM Plan. Counsel did not receive a copy of these comments until September 26, 1994, so UTAM is unable to provide a detailed response at his time. As explained below, however, it appears that the issues raised by HP already have been largely addressed in the Plan. Moreover, HP is welcome to work with UTAM in further developing its implementation procedures to ensure that HP's concerns are fully considered.

HP first requests that UTAM provide advance notice of impending "stop deployment" notices. UTAM fully understands this concern and is exploring acceptable mechanisms for addressing it. UTAM also intends to provide timely updates regarding the interference environment facing unlicensed PCS manufacturers. Any decision to close a market would be subject to the standard dispute resolution process.

(continued...)

UTAM submits that its Plan is now ripe for action and urges the Commission to issue an expeditious approval to enable the industry to move forward to deploy innovative unlicensed PCS products for the benefit of businesses and the general public.

I. UTAM HAS REASONABLY ESTIMATED THE COSTS AND REVENUES ASSOCIATED WITH THE RELOCATION PROCESS

Although a number of parties representing the interests of microwave incumbents have raised questions about various aspects of UTAM's financial plan, their concerns are unwarranted. UTAM reiterates that it will faithfully comply with the FCC's rules on relocation cost reimbursement, as administered and interpreted by the agency.[6] Moreover, UTAM believes that its cost and revenue estimates -- which were derived by UTAM members from the PCS and microwave incumbent

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[5](...continued)

HP further requests that UTAM's band clearing priorities focus on creating Zone 1 areas. UTAM believes that it will do so by following the principle of directing clearing efforts towards the largest increase in business sales opportunities per dollar expended on relocations. See UTAM Plan at 48-51.

HP also suggests that interference classifications be revisited after each relocation. UTAM intends that its database will be updated as appropriate to reflect clearing progress. Finally, HP correctly notes that the Disablement Test Suite in Attachment F of the UTAM Plan is an example only. Manufacturers remain free to develop their own demonstrations of compliance with the rule requirements.

[6] To this end, and contrary to the doubts expressed by AAR at 4-5, UTAM will reimburse microwave licensees for "all costs associated with an involuntary relocation." See Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, 8 FCC Rcd 6589, 6607-6608. To the extent AAR seeks further itemization of those costs beyond that already detailed by the FCC, the appropriate forum for that request would be ET Docket No. 92-9.

communities with both technical and financial backgrounds -- are based on the best information available and take into account all material factors.

A. Relocation Costs

A number of the commenters expressed concern that UTAM's cost estimates for microwave relocations were too low.[7] To the contrary, UTAM believes that it has taken a conservative approach and that its estimate of the average cost per link may prove to be higher than the actual costs. Notably, UTAM's estimate of the total costs for relocating a microwave link substantially exceeds the figure identified by the FCC staff. The Office of Engineering and Technology opined that the average cost of replacing a vintage analog 2 GHz microwave link would fall between $125,000 and $150,000,[8] while UTAM has used an estimate of an average of $200,000 per link for its calculations. This latter figure is fully supported in the record of the Emerging Technologies docket.

UTAM's assumption that it will be required to relocate approximately 10% of the microwave links using channels adjacent to the unlicensed spectrum is similarly reasonable. Although AAR questions the derivation of this figure,[9] it is noteworthy that UTAM is not the primary party responsible for clearing those bands. Only those

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[7] See, e.g., API Comments at 6.

[8] See Creating New Technology Bands for Emerging Telecommunications Technology, Office of Engineering and Technology, OET/TS 91-1, at 31-35 (Dec. 1991) (Report filed in ET Docket 92-9).

[9] AAR Comments at 5.

microwave operations that (1) are not relocated by PCS licensees and (2) will receive interference from or cause interference to unlicensed PCS operations will need to be relocated by UTAM. The 10% figure represents UTAM's considered estimate of the number of adjacent channel links which may fall into this category. It is important to note, however, that UTAM will not permit deployment of unlicensed PCS products that will interfere with these links.

API expresses a similar concern regarding UTAM's estimate that it will need to clear 50% of co-channel microwave links. API argues that this is "overly optimistic" because UTAM has failed to account for the fact that PCS licensees may not relocate links as quickly as UTAM has predicted.[10] In fact, it is reasonable to assume that PCS licensees will seek to clear spectrum at least as quickly as UTAM in order to begin earning returns on the substantial sums they will invest in their licenses and to satisfy the FCC's build-out requirements for their markets. It follows that, because all links in the 1910-1930 MHz band have a return channel in the licensed PCS band, it can be conservatively estimated that PCS licensees will relocate one-half of those links.

Moreover, as UTAM currently is under no obligation to contribute to the costs of relocations conducted by PCS licensees, its costs could actually fall below 50% if those licensees move more than one-half of the links. The FCC has permitted licensed PCS providers to operate with up to 1640 watts e.i.r.p. Such high powered operations will require licensed PCS to coordinate with fixed microwave systems within a 400 km

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[10] API Comments at 5.

distance. UTAM believes that these parameters will require the licensed community to relocate most of the links in their service areas. In contrast, it is highly unlikely that UTAM could ever be required to clear more than one-half of the links -- and thus bear more than 50% of the costs -- in view of its financial constraints and its ability to voluntarily negotiate sharing agreements with the licensees involved where appropriate or necessary.[11]

API also notes that PCIA has filed a petition asking the Commission to establish cost sharing principles to be followed by PCS interests involved in the relocation process.[12] UTAM has filed in support of those principles and believes that cost sharing will benefit both the PCS industry and microwave incumbents.[13] As explained above, the fact that each microwave link in the unlicensed band also operates in licensed PCS spectrum suggests that, even under the proposed requirement for cost sharing on a pro rata basis among all benefitted parties, UTAM's share would not be likely to exceed 50% of the total relocation costs. Rather, UTAM's share could easily fall below 50% because many microwave links could receive interference from more than one MTA or BTA licensee. Consequently, there may be multiple licensed PCS

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[11] In any event, UTAM's projections for clearing fee revenues show that funds substantially in excess of those required to complete the microwave relocation process will be available in the final year identified in each of the scenarios studied. See UTAM Plan, Attachment D. As a result, a moderate increase in the percentage of links to be cleared by UTAM should not materially delay band clearing.

[12] API Comments at 5 n.4; see PCIA Petition for Partial Reconsideration, GEN Docket 90-314 (filed July 25, 1994).

[13] UTAM Reply Comments, GEN Docket 90-314 (filed Sept. 9, 1994).

beneficiaries for each microwave relocation, and UTAM's pro rata share of the costs of such relocations will be less than 50%.

API further speculates that incumbents could find themselves facing a relocation requirement without UTAM having sufficient funds to pay for the move.[14] Of course, no microwave licensee can be required to relocate absent full cost compensation, and its operations are protected from interference prior to that time. Nonetheless, UTAM's relocation proposal avoids the postulated problem. As stated in the Plan,

> . . . UTAM does not anticipate that it will ever experience a short fall in funds because it will only begin relocating a microwave link after it has sufficient funds to cover the relocation costs.[15]

Thus, no link will be asked to relocate until UTAM has the funds to complete the move.

Finally, both API and AAR request that UTAM coordinate its activities with PCS licensees so that microwave networks can be moved as a whole and not as individual links.[16] UTAM is sensitive to their concerns and is willing to negotiate system-wide moves on a voluntary basis where appropriate. But, there is no such FCC requirement and such concerns cannot provide grounds for rejecting the Plan.

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[14] API Comments at 5.

[15] UTAM Plan at 46.

[16] API Comments at 8; AAR Comments at 5-6.

B. Funding and Revenues

In its sole substantive criticism of the Plan, SpectraLink asserts that UTAM's demand predictions fail to account for the fact that some of the wireless product applications that are reflected in the BIS Study will be filled by equipment using other frequencies, such as the ISM bands.[17] To the contrary, UTAM has accounted for this in its calculations, as is demonstrated in the spread sheets included as Attachment D to the UTAM Plan. The PCS demand forecasts in the Plan were adjusted downward accordingly.

API questions the reliability of manufacturers' commitments to provide kick start funds to UTAM.[18] As explained in the Plan, UTAM members have pledged several million dollars in funding to offset UTAM's initial administrative expenses and relocation costs,[19] and UTAM believes that their representations offer adequate assurance of the funds' availability. In fact, substantial funds are already "in hand." In any event, UTAM will not begin any relocations until it already has the funds necessary to cover all relocation expenses for a particular link move.

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[17] SpectraLink Comments at 5.

[18] API Comments at 6.

[19] UTAM Plan at 33.

II. UTAM HAS PROPOSED RELIABLE MEASURES FOR IMPLEMENTING COORDINATION AND DISABLEMENT REQUIREMENTS

The sharing of spectrum between unlicensed PCS products and fixed microwave systems has never before been attempted. As a result, new interference calculations and deployment processes have had to be developed, and many questions remain as to exactly how such mechanisms will work in practice. Nevertheless, UTAM submits that the detail contained in the Plan is sufficient for interested parties and the Commission to evaluate the adequacy of the proposed coordination requirements. UTAM will continue its ongoing work with the PCS industry and microwave incumbents to further refine and improve the coordination procedures in order to smooth the transition of the 2 GHz band from microwave operations to unlicensed PCS.

A. Interference Calculations

Several commenters expressed concerns regarding UTAM's proposed methodology for interference calculations.[20] As stated in the Plan, like licensed providers UTAM will follow TIA 14.11 requirements for determining interference in coordinating installations of PCS systems and devices.[21] These industry-developed standards enjoy a high degree of reliability and acceptance. UTAM intends to continue its work on these matters with TIA, where it has contributed to the development of

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[20] See, e.g., SFWMD Comments at 4-5; API Comments at 13.

[21] UTAM Plan at 64.

Bulletin 10F and will participate in the preparation of future Bulletins. UTAM has also committed to follow NSMA PCN processes for coordination, as API has requested.[22]

Moreover, UTAM has taken a demonstrably conservative approach in developing its coordination processes for the early deployment of unlicensed PCS devices and systems. When a system is deployed in a Zone 1 area, it will be coordinated at the maximum capacity of the installed system. Adding extra mobile parts, therefore, cannot cause the system to exceed the power levels permitted under the coordination or otherwise cause the maximum power cap for the coordinated area to be exceeded.[23] This approach has a built-in safety margin since systems typically are initially operated at less than 50% of their installed capacity.

In addition, UTAM will set the permitted power aggregation levels 10% lower than the actual interference threshold to account for any deployments in progress at the time the cap is expected to be reached. Although UTC questions the derivation of this figure,[24] UTAM believes that it is reasonable in light of the fact that it is coordinating systems to their maximum capacity and most systems are not operated to that maximum.

AAR questions whether certain adjustment factors that will be included in UTAM's interference calculations accurately characterize the activities of all unlicensed

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[22] API Comments at 12-13; UTAM Plan at 31.

[23] See UTAM Plan at 63; cf. API Comments at 7. By definition, there is no interference to microwave operations until the cap is reached.

[24] UTC Comments at 8.

PCS users. In particular, AAR disputes UTAM's observations that unlicensed PCS usage will be heavily concentrated within the typical business day instead of round-the-clock and that unlicensed PCS will be used predominately within buildings, rather than in outside locations. However, the industry strongly supports these assumptions about the nature of most unlicensed PCS usage and has incorporated them in Bulletin 10F, with appropriate adjustments for the fact that they will not hold true for all PCS users at all times. Regarding the factors noted by AAR, although some PCS usage may take place outside of business hours or near windows, this will constitute a minority of total usage.

In their comments, AT&T and UTC express concern regarding the location verification process ("LVP"), which is required under the rules to ensure that unlicensed PCS systems are installed only at their coordinated locations.[25] AT&T states that without detailed address information for each installation, UTAM will be unable to discover any sources of interference to microwave operations.[26] UTC is concerned that UTAM has proposed no means to confirm if a manufacturer is following its location verification process.[27] However, the UTAM Plan clearly states that the LVP must "contain a function that reports the system size, unit power output

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[25] Second Report and Order at 7739-40.

[26] AT&T Comments at 3-4.

[27] UTC Comments at 5.

and county of installation,"[28] and UTAM will collect and record all information needed to monitor compliance with the LVP and other coordination requirements.

B. Enforcement and Dispute Resolution

It is in the best interests of UTAM and the PCS industry, not just the microwave incumbents, for unlicensed PCS manufacturers to follow FCC rules and UTAM procedures. While UTAM cannot act as an insurer for intentional disobedience, UTAM will report all violations of which it becomes aware to the FCC as recommended by AT&T. These may be actionable under Section 302 of the Communications Act and could result in forfeitures and other penalties.[29] Importantly, manufacturers and others marketing unlicensed PCS products, especially large companies, have an interest both in avoiding such penalties and in preventing damage to their credibility with the agency and their customers.

API and AAR both request additional clarification of UTAM's dispute resolution procedures.[30] UTAM will move expeditiously to address any interference complaints and will use those processes and procedures that are typically available to a frequency coordinator.[31] Rule violators will be dealt with as described above. In other cases, UTAM will work with the affected parties to deal with interference

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[28] UTAM Plan at 66.

[29] AT&T Comments at 5.

[30] API Comments at 18; AAR Comments at 8.

[31] See UTAM Plan at 69-72.

problems, including resort to measures such as emissions adjustments and filters, which are commonly used today to solve interference problems. In cases of suspected interference, UTAM will make as much information as possible regarding unlicensed PCS deployments available to affected microwave licensees, consistent with protecting the confidentiality of information supplied by manufacturers.

C. Disablement and Location Verification Procedures

While API and SFWMD further express concern with manufacturers developing their own mechanisms and procedures for activation and disablement,[32] the FCC has explicitly permitted this under the rules.[33] Such flexibility in equipment design and installation is critical to accommodate the wide variety of technologies and products that are expected to be deployed in the unlicensed band. Obviously, the same disablement technique or methodology will not work for all products. For example, use of global positioning satellites to monitor a device's position, as suggested by SFWMD, will not be practical for many systems because of the lack of performance reliability in certain environments.[34]

API raises several additional questions regarding implementation of the LVP for both initial installations and relocations. First, API states that the LVP should be

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[32] SFWMD Comments at 7; API Comments at 14-15.

[33] See Memorandum Opinion and Order at ¶ 220; Memorandum Opinion and Order, 59 Fed. Reg. 32830, 32851 (1994) (to be codified at 47 C.F.R. § 15.307 (d) and (e)).

[34] See SFWMD Comments at 7.

evaluated as part of the equipment authorization process.[35] This is already the case. UTAM will initially pass on the sufficiency of compliance with the rule requirements. Thereafter, UTAM will submit its evaluation of the disablement mechanisms and the LVP to the FCC. The manufacturer must also submit for FCC review "all technical matters related to the device's ability to be coordinated."[36] If a manufacturer changes its disablement or LVP measures, it must submit the changes for re-evaluation by UTAM and review by the FCC.

Second, API contends that in order to comply with the FCC's relocation disablement requirement,[37] UTAM must be able to demonstrate that any movable part of a coordinatable PCS system will cease all transmission when the average signal to noise ratio or bit error rate crosses a pre-determined usable threshold.[38] UTAM agrees with this standard and has included such a requirement in the Plan.[39]

Third, in its comments, API points out the difficulty of coordinating a specific installation location to 8000 meters, as allegedly proposed by UTAM in its Plan.[40]

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[35] API Comments at 14-15.

[36] See Memorandum Opinion and Order, 59 Fed. Reg. 32830, 32851 (1994) (to be codified at 47 C.F.R. § 15.307 (c)).

[37] Memorandum Opinion and Order, 59 Fed. Reg. 32830, 32851 (1994) (to be codified at 47 C.F.R. § 15.307 (e)).

[38] API Comments at 16.

[39] See UTAM Plan, Disablement Test Suite, at 2.

[40] API Comments at 15-16.

API misapprehends the nature of the 8000 meter standard, which does not apply to site-specific coordinations in Zone 2 areas. Every remotable part and fixed part in a Zone 2 deployment must be coordinated at its particular location consistent with TIA 14.11 requirements.

Both UTC and SFWMD criticize UTAM's choice of eight hours as the time within which a relocated device must disable itself.[41] The eight hour figure is the result of extensive discussions with the microwave industry, which expressed concern about UTAM's initial proposal for a 72-hour grace period before disablement. The simple fact is that no matter how short a time frame is chosen or what type of system is used, those who wish to intentionally violate the rules will be able to do so. The eight hour figure was chosen so that large numbers of systems would not be disabled in the event of a typical short duration power outage. Such a shut down would place an unwarranted burden on manufacturers and their customers.

Finally, NATA seeks confirmation of its understanding that UTAM's spectrum clearing plan will not "prevent manufacturers who currently use unaffiliated retailers from continuing to use such retailers for marketing unlicensed PCS equipment in conjunction with wired CPE systems, provided that all applicable regulations are complied with."[42] UTAM agrees with NATA that either the manufacturer or an authorized unaffiliated retailer may perform sales and installation of equipment, so long

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[41] UTC Comments at 5-6; SFWMD Comments at 6.

[42] NATA Comments at 2-3.

as the manufacturer itself remains directly responsible for issuance of the activation authorization under the LVP.

III. THE PLAN FULFILLS UTAM'S OBLIGATION TO EXPEDITE THE DEPLOYMENT OF NOMADIC PCS DEVICES

As explained in its Plan, UTAM has thoroughly explored all realistic alternatives for expediting the deployment of nomadic PCS devices, particularly data-PCS products. UTAM believes that it has devised a workable strategy for achieving that objective within the context of existing constraints such as the availability of funding and the five-year negotiation process permitted for public safety microwave licensees.[43] UTAM's band clearing philosophy, which combines segment self-financing with the establishment of market clearing priorities based on the increase in potential business customers per dollar expended in relocation costs, will maximize the revenues available for clearing and thus, permit nomadic deployment "as promptly as possible."[44] In fact, NATA observes that UTAM's approach to expediting nomadic deployment, "which relies on spectrum clearing fees from non-nomadic devices but which also seeks additional sources of funding, is a reasonable one and should be approved."

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[43] See UTAM Plan at 54-56.

[44] Memorandum Opinion and Order, 59 Fed. Reg. 32830, 32851 (1994) (to be codified at 47 C.F.R. § 15.307(a)); see also UTAM Plan at 48-51.

To further hasten the time at which nomadic PCS products may be sold, UTAM intends to begin the clearing process with microwave links using the frequencies closest to 1920 MHz in both the asynchronous and isochronous bands. This "wedge" approach together with the use of guard bands may permit some nomadic deployment on the interior frequencies of the unlicensed PCS band prior to full band clearing. However, two commenters question whether this proposal is consistent with the current PCS rules and argue that, as a minimum, the FCC should approve any such "early" deployment.[45]

UTAM submits that the limited nomadic deployment described above can easily be accommodated under the current rules, which permit deployment of non-coordinatable devices when there is little risk of interference.[46] Thus, a further rulemaking proceeding is unnecessary. UTAM, however, expects to seek FCC approval of any such interim measures for nomadic deployment, pursuant to whatever procedures the agency deems appropriate. As UTAM explained in the Plan, any "deployment of non-coordinatable devices prior to total band clearing will be consistent with FCC rules and UTAM's obligation to prevent interference to microwave links."[47]

Alone among the commenters, Apple contends that UTAM has failed to satisfy its obligation to expedite deployment of nomadic data-PCS devices. Apple takes issue

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[45] See AAR Comments at 4; API Comments at 10.

[46] Second Report and Order at 7738-39.

[47] UTAM Plan at 55.

with virtually every aspect of UTAM's nomadic deployment strategy, including the impact of segment self-financing, the feasibility of the wedge approach to clearing, the objectivity of UTAM's decision-making, and the reliability of UTAM's cost assumptions. Apple fails to recognize, however, that UTAM has done the best possible job given the practical and financial constraints facing the industry. Apple's repetition of previously rejected complaints is neither material to the acceptability of the Plan nor responsive to UTAM's repeated invitations for Apple to join with the rest of the industry to facilitate the deployment of all PCS products, particularly nomadic data-PCS.[48]

Apple first argues that segment self-financing cannot realistically clear the asynchronous band because, it claims, there is insufficient demand for coordinatable asynchronous devices.[49] However, as Apple acknowledges, the BIS Study found a "relatively equal split in demand for asynchronous and isochronous products," and Apple has offered no citations to the record in this proceeding which would contradict that showing.[50] Moreover, Apple appears not to understand that, through use of wedge approach, microwave links relocated under segment self-financing will benefit

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[48] For example, UTAM has repeatedly solicited contributions from Apple regarding its microwave returning proposals or any other methods for expediting nomadic deployment. Cf. Apple Comments at 2-3. To date, Apple has submitted nothing to UTAM.

[49] Apple Comments at 3-4.

[50] Id.

both bands because each relocated link will be co-channel to one band and adjacent channel to the other.

Apple's complaints about the feasibility of the wedge clearing approach are similarly misplaced. Although that approach will not result in immediate clearing of the entire 10 MHz of the asynchronous band, it is intended to clear at least a portion of that 10 MHz throughout the nation. This would permit early deployment of nomadic products utilizing those cleared frequencies, with the FCC's approval. To further this process, Apple remains welcome to contribute earmarked funds for clearing the asynchronous spectrum.[51]

Finally, with respect to UTAM's governance and decision-making process, UTAM is a broad based, open forum[52] that has consistently operated by consensus and in accord with all FCC rules and policies, which effectively bound its discretion. A number of "computer" companies interested in deploying products in the asynchronous band already participate in UTAM, including AT&T/GIS (formerly NCR), Motorola, and PCSI. Moreover, nowhere has Apple even explained how it would, consistent with applicable law and policy, modify UTAM's structure to meet its

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[51] Contrary to Apple's claims, UTAM has made clear in the Plan that funds may be earmarked for specific clearing purposes, whether directed to particular frequencies or geographical areas. UTAM Plan at 56; cf. Apple Comments at 5-6.

[52] Indeed, there remain open seats on UTAM's board to be filled by additional voting members such as Apple if it chooses to join.

purported governance concerns. It follows that Apple has failed to provide any legitimate grounds for delaying approval of the Plan.

IV. CONCLUSION

UTAM has developed its Plan for financing and managing the microwave relocation process consistent with all requirements in the FCC's rules and orders. The Plan is fair to all interested parties and will permit the most expeditious deployment of nomadic PCS devices compatible with legal and practical requirements. For the reasons set out above and in its Plan, UTAM urges the FCC to promptly approve the Plan and permit UTAM and the industry it represents to begin the process of deploying important new PCS systems and devices to benefit the public.

Respectfully submitted,

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September 27, 1994

CERTIFICATE OF SERVICE

I hereby certify that on this 27th day of September, 1994, I caused copies of the foregoing "Reply Comments of UTAM, Inc." to be mailed via first-class postage prepaid mail to the following:

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